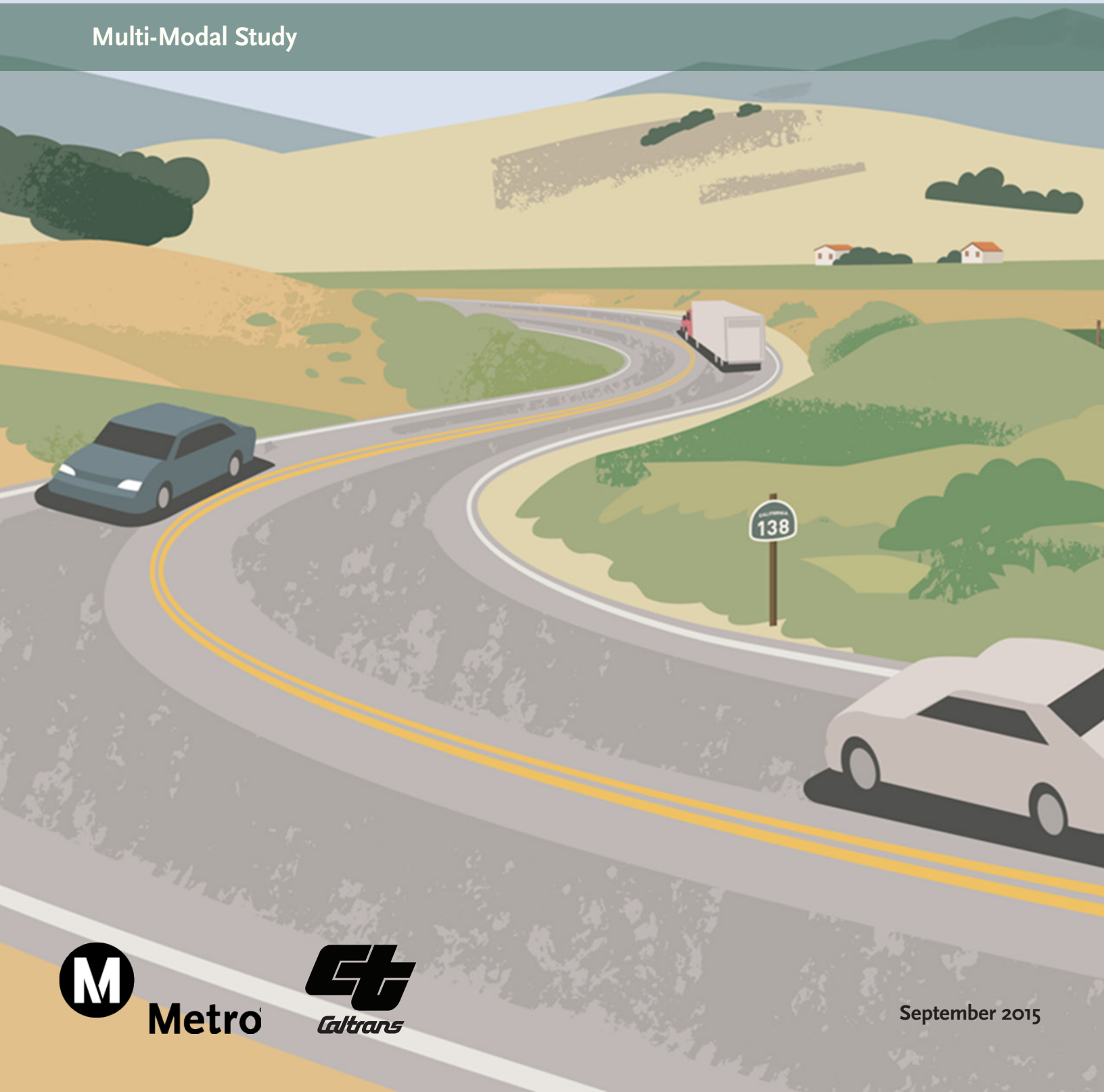


Northwest 138 Corridor Improvement Project

Multi-Modal Study



Metro



September 2015



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I Introduction

This Multi-Modal Study report was prepared for the Northwest 138 Corridor Improvement Project. The purpose of this report is to present the current and proposed multimodal solutions that can be implemented to improve overall mobility within the study area. The report contains an overview of the multi-modal facilities in the vicinity of the project area along with recommendations for multi-modal facilities along the Northwest 138 corridor.

The Transportation Analysis Report for the Northwest 138 Corridor Improvement Project was submitted in June 2015. The purpose of this report was to analyze project design alternatives and their effects on the highway transportation network. The report focused on a comparison of alternatives designed to improve future traffic operations and safety along the Northwest 138 corridor consistent with the purpose and need statement. Portions of the analysis results will also be used to comply with environmental impact analysis requirements for the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA).

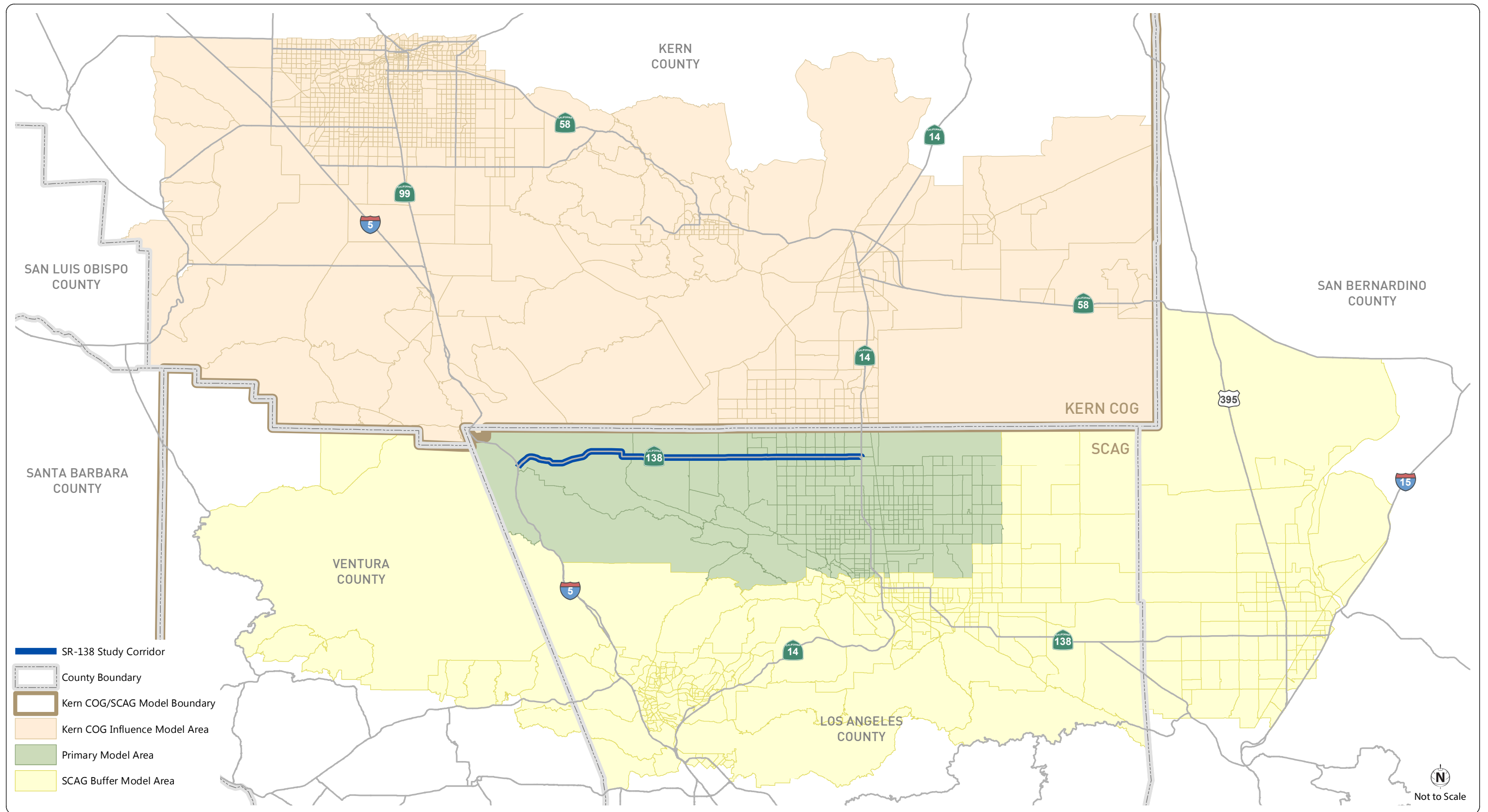
PROJECT BACKGROUND

The Northwest 138 Corridor Improvement Project consists of a 36-mile section of State Route 138 (SR-138) between Interstate 5 (I-5) and State Route 14 (SR-14). Situated in Antelope Valley in the northwest corner of Los Angeles County and just south of the Kern County border, the highway is the main east-west route connecting the I-5 to the Antelope Valley, Lancaster, Palmdale and other High Desert communities. This corridor is currently a 2-lane undivided highway and functions as a bypass for people and goods movement, as well as providing critical mobility for the Antelope Valley economy, which provides employment opportunities, such as space technology and alternative energy.

The Northwest 138 Corridor Improvement Project will expand on the previous North County combined Highway Corridor Study completed in 2004 to develop a multi-modal transportation plan for the northern portion of Los Angeles County to address both short and long-term needs for a variety of trip purposes and goods movement. To accommodate the potential for population and economic growth in the future, a variety of project alternatives have been developed to improve this portion of SR-138.

STUDY AREA

The study area is shown in Figure 1. For the purposes of reflecting regional travel demands, the northern portion of Los Angeles County and southern portion of Kern County were included as part of the study vicinity. However, the corridor analysis and operational improvements are focused on SR-138 from I-5 to SR-14.





CALTRANS NONMOTORIZED POLICIES

Caltrans' Project Development Procedures Manual (October 2014) outlines the process for the consideration of nonmotorized transportation facilities as part of state highway projects. The following have been considered as part of the proposed project:

- **California Streets and Highways Code 888:** The department shall not construct a state highway as a freeway that will result in the severance or destruction of an existing major route for nonmotorized transportation traffic and light motorcycles, unless it provides a reasonable, safe, and convenient alternate route or such a route exists.
- **Section 888.2 Incorporation of Nonmotorized Facilities in the Design of Freeways:** The department shall also incorporate nonmotorized transportation facilities in the design of freeways on the state highway system along corridors where nonmotorized facilities do not exist, upon a finding that the facilities would conform to the California Recreational Trails System Plan specified in Section 5070.7 of the Public Resources Code or upon a finding, following a public hearing, that the facilities would conform to the master plans of local agencies for the development of nonmotorized facilities and would not duplicate existing or proposed routes, and that community interests would be enhanced by the construction of the facilities. The department shall establish an annual priority list of projects to be funded pursuant to this section, which shall primarily benefit bicyclists rather than other highway users.

The multi-modal facilities proposed as part of the project are presented in Chapter 3.



2 Project Description

The California Department of Transportation (Caltrans), in cooperation with the Los Angeles County Metropolitan Transportation Authority (Metro), propose to widen and improve approximately 36.8 miles of State Route 138 (SR-138) between the Interstate 5 (I-5) interchange and the State Route 14 (SR-14) interchange.

The existing facility is a 2-lane highway that contributes to the local circulation network and provides an alternate route for east-west traffic in northwest (NW) Los Angeles County. The NW SR-138 Corridor Improvement Project (project) would widen SR-138 and provide operational and safety improvements. The project corridor spans east-west approximately 36.8 miles (Post Mile [PM] 0.0 to PM 36.8) in the NW portion of Los Angeles County, just south of the Kern County border.

This section describes the proposed action and the project alternatives that were developed to achieve the identified purpose and need of the project while avoiding or minimizing environmental impacts. The alternatives are the No Build Alternative, Alternative 1 (Freeway/Expressway) with or without a design option for a bypass around Antelope Acres, and Alternative 2 (Expressway/ Conventional Highway). SR-138 is an undivided 2-lane highway that travels from I-5 around the south side of Quail Lake and east to SR-14. SR-138 is not a controlled-access facility; access and egress points include at-grade intersections with paved and unpaved roads and driveways. The existing roadway consists of two 12-foot lanes with variable shoulders ranging from 2- to 4-foot paved to 8 foot unpaved non-standard shoulders.

The purpose of the project is to improve mobility and operations in northwest Los Angeles County, enhance safety within the SR-138 Corridor based on future projected traffic conditions, and accommodate foreseeable increases in travel and goods movement within northern Los Angeles County.

The need for the proposed project is derived from foreseeable increases in travel demand that would exceed the current capacity of SR-138 and higher than average state-wide fatal accident rates at several locations.

PROJECT ALTERNATIVES

NO-BUILD ALTERNATIVE

Implementation of the No-Build Alternative would maintain the existing configuration of SR-138 and would not result in improvements to the route. However, additional residential, commercial, and interregional development is anticipated to occur in Antelope Valley in the future. With Los Angeles to the southeast and Bakersfield to the northwest, this area is poised for large-scale growth, which is anticipated to result in increased traffic demands beyond the capacity of the existing system (Caltrans, 2008).

The No-Build Alternative would not accommodate the projected population growth or expected substantial increase in goods movement truck traffic in Northern Los Angeles County and the existing corridor would not be improved. As discussed in the Project Study Report/ Project Development Study (PSR/PDS), the existing SR-138 corridor is projected to degrade and operate consistently at a Level of Service (LOS) E and F for 2040 conditions (Caltrans, 2008). The No-Build Alternative could result in indirect impacts on air quality, mobility, safety, and the economy within Northern Los Angeles County. There would be increased maintenance costs to maintain the route without any other improvements.

BUILD ALTERNATIVE 1 | Freeway - Expressway

Alternative 1 (Freeway/Expressway) would include a 6-lane freeway from the I-5 interchange connector ramps to County Road 300th Street West, and a 4-lane expressway from County Road 300th Street West to the SR-14 interchange generally following the existing alignment of SR-138. There would also be improvements to the I-5/SR-138 and SR-138/SR-14 freeway connections and structure over the SR-14. Study limits on I-5 are from PM 79.5 to PM 83.1 and on SR -14 the limits are from PM 73.4 to PM 74.4.

BUILD ALTERNATIVE 1 WITH DESIGN OPTION | Antelope Acres Bypass

There is a design option with this alternative to include a bypass route around the Antelope Acres community. This option was developed to reduce the impacts to the existing residences of Antelope Acres due to the proposed four-lane expressway along the existing alignment of SR-138. The alignment would bypass the community to the north along West Avenue C and going from west to east, the alignment would begin to deviate from the existing SR-138 near 100th Street West and continue in a northeasterly direction towards West Avenue C. After paralleling West Avenue C for approximately one mile, the alignment would continue in a southeasterly direction back towards the existing SR-138, and eventually join the existing SR-138 near 70th Street West. The existing highway would be relinquished to the County as a local roadway between 100th Street West and 70th Street West, with additional speed reduction measures proposed to reduce cut-through traffic.

BUILD ALTERNATIVE 2 | Expressway – Conventional Highway

Alternative 2 (Expressway/Highway) would include a 6-lane freeway from the I-5 interchange connector ramps to Gorman Post Road, a 6-lane expressway from the Gorman Post Road interchange to County Road 300th Street West, a 4-lane expressway from 300th Street West to County Road 240th Street West, and a 4-lane limited access Conventional Highway from County Road 240th Street West to the SR-14 interchange, generally following the existing alignment of SR-138. There would also be improvements to the I-5/SR-138 and SR-138/SR-14 freeway connections and the structure over the

SR-14. The study limits on these connectors would be the same as Alternative 1; on I-5 from PM 79.5 to PM 83.1 and on SR -14 the limits are from PM 73.4 to PM 74.4.

For Alternative 1 (with or without the Antelope Acres Bypass design option), and Alternative 2, new overcrossings would also be considered at various intersections with local roads including 60th Street West, 90th Street West, 110th Street West, 170th Street West, 190th Street West, 210th Street West, and Three Points Road to enhance traffic safety and improve local vehicular, pedestrian and bicycle circulation.

Note on the Transportation System Management (TSM) Alternative:

The TSM Alternative was developed to strategize improvements to the facility without major changes to the overall capacity. This alternative had improvements to the vertical and horizontal roadway alignment in areas that are currently non-standard, shoulder widening, localized improvements at accident locations, intersection improvements, and additional lanes to improve safety and traffic flow at focused areas. Upgrades to signage and lighting were also evaluated to improve safety and operations.

A TSM Alternative was proposed originally as a result of agency and public input during circulation of the Notice of Intent (NOI)/Notice of Preparation (NOP) in 2013 and subsequent public meetings.

The TSM Alternative was studied and evaluated in all of the technical studies for the proposed project but the TSM Alternative was not recommended for further analysis and it was ultimately rejected from further study because it did not fully address the project's purpose and need. For that reason, the TSM Alternative is included in this technical study analysis but not included in the project description seen above. Please refer to the NW SR-138 Draft EIR/EIS for more information on the TSM Alternative.

COMPARISON OF ALTERNATIVES

Table 1 provides a comparison of No Build, Alternative 1 (Freeway and Expressway), Alternative 2 (Expressway and Four-Lane Conventional Highway), and the TSM Alternative.

TABLE I – SUMMARY COMPARISON OF SR-138 ALTERNATIVES				
Design Feature	Alternative (No Build)	Alternative 1 (Freeway & Expressway)	Alternative 2 (Expressway & Limited Access Conventional Highway)	TSM Alternative¹
Type of Facility	2-lane conventional highway	6-lane Freeway to 300 th Street West ; 4-lane Expressway to SR-14	6-lane Expressway to 300 th Street West; 4-lane Expressway to 240 th Street West/4 lane limited access conventional highway to SR-14	2-lane conventional highway with improvements (curve corrections, paved shoulders, passing lanes, intersection channelization)

TABLE I – SUMMARY COMPARISON OF SR-138 ALTERNATIVES

Design Feature	Alternative (No Build)	Alternative 1 (Freeway & Expressway)	Alternative 2 (Expressway & Limited Access Conventional Highway)	TSM Alternative¹
Access	Multiple access location, driveways, field roads, county roads	Interchanges along Freeway; Median U-Turns, Displaced Left-Turns, Two-Way Stop Controlled, Roundabouts	Tight Diamond Interchange; Traffic Signals; Two-Way Stop Control; Roundabouts	TBD
Median Widths	N/A	Varies 22 to 86 feet	Varies 0 to 86 feet	N/A – TBD
<p>Note:</p> <ol style="list-style-type: none"> The TSM Alternative was studied as part of the Transportation Analysis Report. However, this alternative has since been removed from further consideration because it does not meet the Project Objectives outlined in the Purpose & Need. 				

At this time, the Project Development Team has not identified a preferred alternative; all three build alternatives are being analyzed as practical alternatives.



3 Multi-Modal Facilities

The multi-modal facilities along the Northwest 138 corridor are described below.

BICYCLE & PEDESTRIAN NETWORK

The study area is primarily a rural environment. Due to the nature of the built environment and surrounding land uses, the north-south roadways connecting to SR-138 do not have sidewalks, and bicycle facilities are limited. The County of Los Angeles Bicycle Plan was adopted in 2012, and identifies existing and future planned facilities throughout the County. A Trails Plan was also adopted into the Antelope Valley General Plan by the County Board of Supervisors in 2007, and serves recreational travel for bicyclists.

Bicycle facilities are generally categorized into three types of facilities: Class I – bicycle paths, Class II – bicycle lanes, and Class III – bicycle routes. The facility types are described as follows:

- Class I bike paths, also called shared-use paths or multi-use paths, are paved right-of-way for exclusive use by bicyclists, pedestrians, and other non-motorized modes of travel. They are physically separated from vehicular traffic and can be constructed in roadway right-of-way or exclusive right-of-way.
- Class II bicycle lanes are defined by pavement striping and signage used to allocate a portion of a roadway for exclusive bicycle travel. Bike lanes are one-way facilities on either side of a roadway.
- Class III bike routes provide shared use with motor vehicle traffic within the same travel lane. Designated by signs and roadway markings, bike routes provide continuity to other bike facilities or designated preferred routes through corridors with high demand.

The County's Bicycle Plan has proposed Class II and III bicycle facilities located primarily northwest of City of Lancaster, south of the SR-138 corridor.

The following bicycle and pedestrian facilities will be maintained and/or enhanced with the SR-138 corridor project:

- The existing bicycle routes south of SR-138 and east of 245th Street as outlined in the in the LA County Riding and Hiking Trails map will be maintained. The roadway alignment west of 245th Street is proposed to be located south of the existing SR-138. Large segments of the existing SR-138 will remain in place to serve local vehicle and bicycle access. A crossing for cyclists and pedestrians will be maintained at 245th Street and 110th Street.



- An access road is proposed for utilities from west of 300th Street to the proposed Cement Road Interchange. This new access road can also be used to accommodate bicycle access.
- The proposed crossings at Cement Road and west of the existing SR-138 & Old Ridge Road intersection would provide local access, facilitate bicycle travel, and provide connectivity to Quail Lake.
- Overcrossings proposed as a potential treatment option for 60th Street and 90th Street, as part of alternatives could also facilitate bicycle and pedestrian travel across SR-138.
- A proposed bike path running parallel to the south shore of Quail Lake and a local access road connecting Quail Lake to Gorman Post Road will maintain the continuity of the bike routes at the western project limits.
- Bicycles are accommodated along the entire transportation corridor. Bicycles traffic will not be allowed on the freeway portion of the alternative alignments. Bicycle movement through freeway segments will be provided by separate off alignment bike paths, which includes newly constructed bike path, utility corridors, and remnants of the existing SR-138. On Expressways segments, bicyclist will be allowed on the shoulders, which allows for full connectivity along the entire corridor.
- The purpose of the class I Bike Path is to provide bicycle access adjacent to the 138 corridor when the facility is proposed to be converted from a conventional highway to a freeway, where bicycle access is not allowed. Class I Bike Path is not proposed along the entire corridor because the utility corridor is not continuous throughout. Below is a description of how bicycle access is accommodated under each build alternative:
 - Alternative 1 (Freeway/Expressway) would include a 6-lane freeway from the SR138/I-5 interchange to 300th Street - on this section bikes will be accommodated off the freeway on the remaining parts of SR 138 and proposed bike path. On the 4-lane expressway from 300th Street to the SR-14 interchange bike will be accommodated along the shoulders. Bike refuge areas will be provided at each intersection that has a designated right turn pocket.
 - Alternative 2 (Expressway/Highway) would include a 6-lane expressway from the Gorman Post interchange to the 300th Street West, a 4-lane expressway from 300th Street West to 240th Street West, and a limited access Conventional Highway from 240th Street West to the SR138/SR-14 interchange. Bikes would be accommodated along the proposed shoulders. Bike refuge areas are provided at each intersection that has a designated right turn pocket.
 - The TSM alternative would include improvements to SR-138 without major changes to the overall capacity of the corridor. This alternative would widen the shoulders to standard 8 foot shoulder. Bikes would be accommodated along the widened shoulders. Bike refuge lanes are provided at each intersection that has a designated right turn pocket.
- Access at the major crossings provides for grade separated options for the major trail crossings. At both locations of the Pacific Crest Trail the trail is grade separated to provide continuity in the movement of bicyclists. Other trail crossings provide similar grade separations.



HIKING TRAILS

The study area also includes a trail network that is used by hikers, bicyclists, and equestrians. This network is comprised of the Adopted County Backbone Trail System, Pacific Crest National Trail, Federal/National Forest Trails, and Incorporated City Trails.

The following trails will be maintained and/or enhanced with the SR-138 corridor project:

- The Pacific Crest Trail crosses SR-138 at 269th Street. An undercrossing is proposed at this location to help improve the current conditions. The Pacific Crest Trail Association and Tejon Ranch are currently exploring the relocation of the Antelope Valley segment of the trail to the west. If the Pacific Crest Trail is realigned, the proposed interchange at 300th Street & SR-138 would provide for a better crossing option for Hikers.
- Hiking trails delineated in the LA County Trails Plan cross SR-138 west of 140th Street (trail parallels SCE transmission corridor), Three Points Road (trail parallels LA Aqueduct 1913), and 290th Street. Crossings at these locations will be maintained.
- The parking lot located on the west side of Quail Lake provides access to hiking trails around Quail Lake. The project is not expected to impact the parking lot or the trails, and additional access would be available with the proposed Gorman Road Interchange improvements.

TRANSIT

The study area is served primarily by the Antelope Valley Transit Authority (AVTA) for bus service. AVTA provides 11 local routes and one express route in the Antelope Valley. In addition, AVTA operates supplemental and deviated routes to accommodate increased student ridership on routes that serve Eastside High School, and Antelope Valley High School in Lancaster, and Pete Knight High School in Palmdale. The AVTA also provides three commuter bus services:

- AVTA Line 785 – Line 785 connects Antelope Valley with Downtown Los Angeles and has an average headway of 10-20 minutes during weekday peak periods.
- AVTA Line 786 – Line 786 connects Antelope Valley with Century City/West Los Angeles and has an average headway of 60 minutes during weekday peak periods.
- AVTA Line 787 – Line 787 connects Antelope Valley with West San Fernando Valley and has an average headway of 20-30 minutes during weekday peak periods.

AVTA also provides a dial-a-ride (DAR) service to seniors over the age of 65 and disabled residents of the Antelope Valley.

In addition to the bus network, Antelope Valley is also served by two stations on the Antelope Valley Metrolink rail line, the Lancaster Station and Palmdale Station. This line provides commuter service between Antelope Valley and Union Station in Downtown Los Angeles. From the Palmdale Station, 10 commuter trains run daily in each direction Monday through Friday to/from Union Station.

No scheduled public transit service currently serves the communities immediately adjacent to the SR-138 corridor or travels along SR-138. The closest public transit to the project area is AVTA service to 60th Street and Avenue H and can be accessed through the 60th Street intersection.



Multiple School Districts provide school bus service to the project area. Bus stops are currently located at 60th Street, 80th Street, 90th Street, 110th Street, 130th Street, 255th Street and 280th Street. The majority of these bus stops are located on cross streets that will continue to have access to SR-138, or will have access to the existing SR-138 when it becomes a local access road. At 110th Street and 130th Street provisions will be made to maintain the bus stop location. Appendix A contains an exhibit of the bus routes along the study corridor.

NORTHWEST 138 CORRIDOR MOBILITY EXHIBIT

